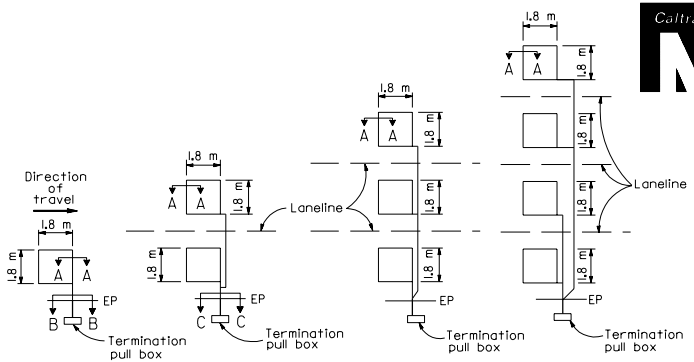
LOOP INSTALLATION PROCEDURE

1. Install termination pull box with curb or shoulder termination detail (see Standard Plan ES-5E).
2. Loops shall be centered in lanes.
3. Saw slots in pavement for loop conductors as shown in details.
4. Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 600 mm minimum. Distance between lead-in saw cuts shall be 150 mm minimum.
5. Bottom of saw slot shall be smooth with no sharp edges.
6. Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
7. Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
8. Identify and tag loop circuit pairs in the termination pull box. Indentify and tag with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
9. Install loop conductor in slot using a 5 mm to 6 mm thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
10. No more than 2 twisted pairs shall be installed in one sawed slot.
11. Allow additional length of conductor for the run to termination pull box plus 1.5 m of slack in pull box.
12. The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per meter minimum) before being placed in the slot and conduit leading to termination pull box.
13. Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
14. Fill slots as shown in details.
15. Splice loop conductors to lead-in cable. All splices shall be soldered using rosin-core solder.
16. End of lead-in-cable and Type 2 loop wire shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
17. Lead-in-cable shall not be spliced between the termination pull box and the controller cabinet terminals.
18. Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
19. Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.

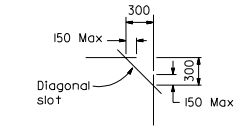


TYPE 1A INSTALLATION | TYPE 2A INSTALLATION | TYPE 3A INSTALLATION | TYPE 4A INSTALLATION

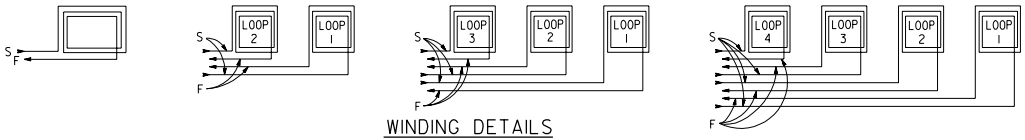
SAWCUT DETAILS

Type A loop detector configurations illustrated

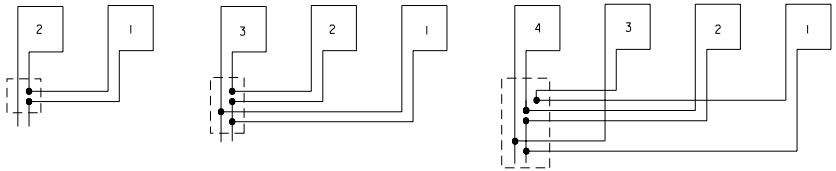
1. 1A thru 4A = 1 Type A loop configuration in each lane.
2. 1B thru 4B = 1 Type B loop configuration in each lane.
3. 1C = 1 Type C loop configuration entering lanes as required.
4. 1D thru 4D = 1 Type D loop configuration in each lane.
5. 1E thru 4E = 1 Type E loop configuration in each lane.
6. 1Q thru 4Q = 1 Type Q loop configuration in each lane.
(Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

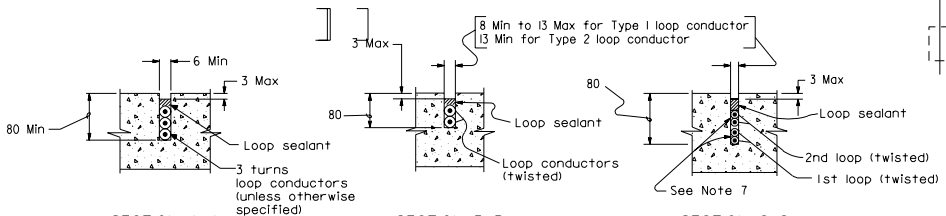


WINDING DETAILS



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)
Number 1 loop is the closest to the crosswalk



SECTION A-A | SECTION B-B | SECTION C-C

SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED ELECTRICAL ENGINEER

July 1, 1999
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Sompol Chatusripitak
No. E13633
Exp. 6-30-03
ELECTRICAL
STATE OF CALIFORNIA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SIGNAL, LIGHTING AND ELECTRICAL SYSTEMS DETECTORS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

ES-5A

1999 STD. PLAN ES-5A